THE
MUPPET™
GUIDE TO
COMPUTERESE

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Moi is sure you will agree that *mon cher* Kermie and moi are clearly the perfect couple—we share so much! We agree on our favorite actress, our favorite singer, our favorite author…modesty prohibits moi from going on, but you get my drift.

The one **teensie** subject we might **possibly** disagree on is water. I'll never forget the first time my frog invited me to visit his pad—I almost drowned! He should have **told** me he meant a lily pad!

So you can imagine my reaction when Kermie invited me to go on a cruise with him—the two of us on a cute little boat, with miles of ocean surrounding us, and waves bouncing us up and down, and side to side, and the boat rocking to and fro, and fro and to…ulp! We superstars have very sensitive tummies, you know.

But a girl must stick by her frog, no matter what! And when he told moi that **Time** magazine's Man of the Year was going to be on board, I just **had** to meet him. Imagine my surprise when moi discovered that the Man of the Year was a **computer!** Moi thought it was that cute Tommie Selleck person.

Still, a celebrity is a celebrity. And when moi got acquainted with *le computer,* it was love at first byte! It was all so **interesting!** I even learned to speak his language—Computerese.

Of course, moi does have a gift for languages—perhaps you have noticed that moi speaks *le francais perfectment!* But to tell the truth, Computerese is not that *difficile*—once vous have learned a few key words, everyone will think vous are *très* computer literate.

To help you, I've put together this little phrase book, with all the adorable computer phrases I picked up on the cruise. As *mon capitaine* says, "Welcome Aboard!"

Miss Piggy
xx

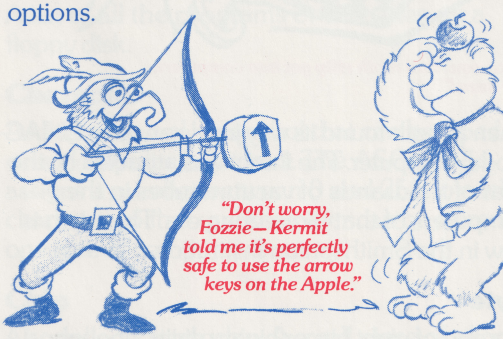
GLOSSARY

Application Program

A program that tells a computer how to perform a particular job, or application. Examples include word processing, data storage, electronic mail, and games.

Arrow Keys

↑↓ and ⇆ on the keyboard. Used to move the cursor around on the screen, or to highlight options.



"Don't worry, Fozzie—Kermit told me it's perfectly safe to use the arrow keys on the Apple."

ASCII

Stands for "American Standard Code for Information Interchange." Pronounced "askey," this code is used by nearly every type of computer to assign a numerical value to all the letters, numbers, and symbols on the keyboard.

Assembly Language

A "low-level" computer language, so called because its commands cause the computer to perform individual, small actions, thus letting the assembly-language programmer control precisely what the computer does. Assembly-language commands are written in letters rather than in numeric codes. An "assembler" program is then used to turn these commands into machine language.

Assembly-language commands to add 2 and 2 and store the result look like this (explanations are written at the right):

```
CLC        Get ready to add (clear)
LDA #2     Load the number 2 into the
              "accumulator"
ADC #2     Add 2 to the number in the
              accumulator
STA SUM    Store the result in memory
              location SUM
BRK        Stop (break program)
```

Backup

A duplicate copy of a file, or of an entire disk, to use in case the original is damaged. Since floppy disks can be ruined by heat, power failure, spilled coffee, and so on, it is always wise to make backup copies of data files.

BASIC

Stands for "Beginner's All-purpose Symbolic Instruction Code." BASIC is a programming language that uses commands which are usually English words, like PRINT, LIST, RUN, and SAVE. It was designed to be easy for people to learn and understand, and is so popular that it is built into many microcomputers.

Instructing a computer to add 2 and 2 in BASIC looks like this:

```
10  SUM = 2 + 2
20  END
```

Baud Rate

A measurement of the speed at which information is transferred from computer to computer, or from computer to printer or disk drive, expressed in bits per second. Dividing the baud rate by 10 equals the approximate number of characters transferred from one device to another in one second. You usually encounter baud rate figures when shopping for a modem, the device that lets you link your computer with another computer via telephone lines. Standard baud rates for this purpose are 300 and 1,200 baud.

*"I guess that means if we sent this program out over telephone lines, we'd have to call it **Welcome A Baud.**"*

BBS

Stands for "Bulletin Board System." A phone-in message center that allows computer users to link their computers together, using a modem, to exchange information and computer programs with each other.

Binary

A counting system used by computers, with only two numbers: 0 and 1 ("bi" means two). Electronic switches in a computer can be either on or off, so each switch can represent either 0 or 1. Groups of switches linked together can be used to represent any number. Counting in binary means skipping over the numbers 2 through 9. For example, numbers 1 through 5 in binary code are:

0001	(1)
0010	(2)
0011	(3)
0100	(4)
0101	(5)

Bit

The smallest unit of computer memory, the abbreviation for "binary digit." A bit is either a 0 or a 1. A group of eight bits put together in a row is a byte.

Boot

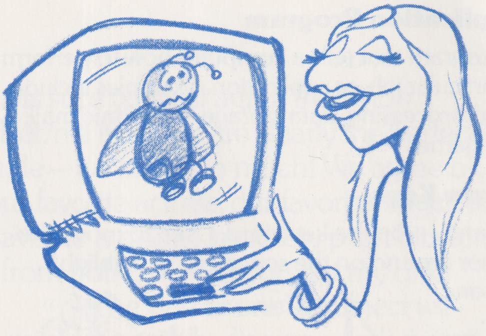
To boot a computer system means to start it up by turning it on and allowing the computer to read a program from the disk. In some computers, a program stored in the permanent memory tells the computer how to do this.

Buffer

A temporary storage area in computer memory, used to hold information that is waiting to be transferred from one device to another—for example, from a computer to a printer or disk drive.

Bug

A problem in a computer program that causes it to do something unexpected or to stop completely. The first "bug" occurred in the 1950s when a moth found its way inside an early ENIAC-model computer. The insect was attracted by the heat of thousands of vacuum tubes in the computers of that pioneering era. The moth is now in the Smithsonian Institution.



*"Like wow, that moth **rilly** got into computers. Fer sure!"*

Byte

A group of eight bits or binary digits, enough to represent a binary number between 0 (binary 00000000) and 255 (binary 11111111). A byte—eight bits—allows enough combinations to represent all the letters, numbers and symbols that appear on the keyboard and operate the computer.

"This out-of-work computer programmer came up to me on the street and said he hadn't had a byte in weeks—so I bit him! The bear is funneee!"

Card

A circuit board which can be plugged into some computer models to expand the computer's capabilities.

Cartridge

A plastic box containing a computer circuit with a program permanently "written" on it; that is, stored in the circuit's memory.

Cassette

Magnetic tape, just like that in an audio cassette, used to store programs or data. Because the computer has to read the tape sequentially (one bit at a time, from the beginning), this method of storing and retrieving information is much slower than a floppy disk.

Catalog

A list of all the programs or data files on a floppy disk.

Character

A letter, numeral, or symbol that can be typed on a computer keyboard. The ASCII code assigns a number between 0 and 255 to each character, so that one character can be stored in one byte of computer memory.

Chip

Also called a microchip. A small piece of silicon-based material serving as a microprocessor or providing memory-storage capacity. The heart of a computer is a group of chips connected together to form circuit boards.

Circuit Board

A plastic or fiberglass board holding computer chips and other electronic parts. The chips are connected by metal strips photographically printed on the board (a printed circuit).

Commands

The words or numerals used to give instructions to a computer—the vocabulary of a computer language. Commands put together in a logical order form a computer program.

Computer-Aided Design (CAD)

A technique for designing machines, buildings, or even clothing, that uses a computer program to draw and rearrange elements of the design on a computer display. In **Welcome Aboard,** you can try out computer-aided design in the Salon de Beauté.

Control Keys

The CONTROL key on a computer keyboard can be held down while another key is pressed to perform tasks defined by the program. For example, in **Welcome Aboard,** CONTROL Q calls up a help screen, and CONTROL X erases the character where the cursor is located.

Both the CONTROL key and the letter key must be pressed at the same time.

Copy Protection

Special codes included in a program or on a floppy disk so the contents of the disk cannot be easily copied by a computer. Software publishers often copy-protect their programs so that users cannot duplicate the software and sell or give away the copies, an illegal practice known as pirating.

CPU

Stands for Central Processing Unit. The main computer chip that follows the instructions that make up a program. Also called a microprocessor.

Cursor

A "pointer" that appears on a computer display screen to show the position where activity will take place. The cursor in a word processing program, for example, shows where the next character typed will appear. A cursor might look like □ or __.

Daisy-Wheel Printer

The most common kind of letter-quality printer, using a wheel-shaped printing element with a character at the end of each spoke.

Data

Information read or written by a computer program.

Database Program

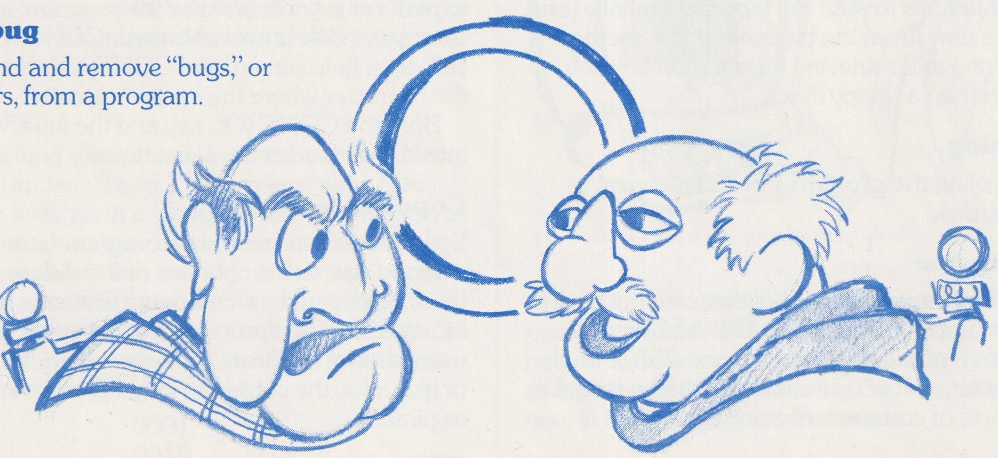
A program that can store, retrieve, sort, index, and display information in a format and a sequence specified by the user of the program. In **Welcome Aboard,** Fozzie's Joke Library is a database.

Data Disk

A floppy disk used only to save data—for example, word processing files or mailing lists.

Debug

To find and remove "bugs," or errors, from a program.



*"I hear this **Welcome Aboard** program has been completely debugged."*

"Terrific! Now if they can have it de-frogged, de-pigged, and de-beared, they'll really have something."

Delete

To remove or erase. In many programs (including **Welcome Aboard**), the DELETE key is the "oops" key—it erases the character you have just typed (that is, the character to the left of the cursor). On some computers the key may be labeled DEL or ←, or may be called the rub-out or backspace key.

Disk (see Floppy Disk)

Disk Drive

A device used to store and retrieve computer programs and information using floppy disks, which are inserted into the disk drive.

Documentation

The instruction manual that comes with a computer, a peripheral (an accessory device), or a program.

DOS

Stands for Disk Operating System. This is the program that tells the computer how to communicate with the disk drive or printer.

Dot-Matrix Printer

A printer that forms characters or pictures by printing a pattern of tiny dots.

Electronic Mail

The sending and receiving of messages between computers via telephone lines. In **Welcome Aboard,** you can learn about electronic mail in the Message Center.

Error Message

A message that appears on the computer display to alert the user that the computer is having trouble understanding a command or something the user has typed. Error messages may also indicate that the computer is unable to communicate with a peripheral.

ESC

The "escape" key on the computer keyboard. Many programs use this key to let the user exit from a part of a program, often to choose another activity from a menu. If a computer has no ESC key, a program may use another key for the same purpose.

File

A collection of information stored on a disk. Each file is given a name so it can be identified and retrieved, just like the folders in a traditional file cabinet. A file can either be a program or collection of data.

Floppy Disk

A circular piece of thin magnetized plastic encased in a stiff sleeve. The floppy disk is placed in a disk drive, where it spins rapidly while a magnetic "head," not unlike a tape recorder head, reads and writes information. The head moves across the disk so it can find information anywhere on the disk very rapidly.

Format

A blank disk must be formatted before it can be used. The formatting operation organizes the disk into physical areas to and from which the computer can read or write information. This process is sometimes called initializing a disk.

Also: The arrangement of text or columns of figures on the screen or printed page.

Function Keys

Special keys on many computers whose use is determined by the programmer and varies from program to program. On the Apple computer, the open-apple and closed-apple keys are used for special functions. On other computers, these keys are labeled F1, F2, F3….

Hacker

Term originally used to refer to a computer programmer who proceeds by trial and error—hacking his way through the task. More recently, the term has sometimes been used by the media to refer to computer users who invade private databanks by telephone.

Hardware

The electronic and mechanical parts of a computer—the actual physical equipment—as opposed to software—the programs that run on the computer hardware.

Help Screen

A screenful of information, available to the user while a program is being used, which offers assistance in the use of that program.

In **Welcome Aboard,** you can often call up a Help Screen by holding down the Control key while typing the letter Q.

Highlight

Emphasizing a word or letter by making it appear to be printed dark on a light background, the opposite of the normal display on a computer screen.

Input

Anything the user tells the computer program. The device used to put information into the computer can be a keyboard, a joystick, or mouse, or even—on computers programmed to recognize speech—a microphone.

Interface

Device used to let different computer components communicate with each other. For example, you need an interface to connect your computer to a printer or a modem. Sometimes the interface is built into the computer.

There are two common types of interfaces: serial and parallel. A serial interface passes information along one bit at a time; that is, in a series. A parallel interface transfers an entire byte of information simultaneously, that is, eight bits at a time.

"A serial interface might be good, but my favorite is still the good old pie interface!"

Joystick

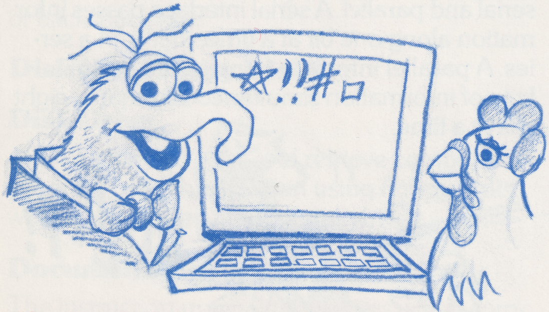
A computer input device with a "movable stick" used to direct a program (usually a game) to move something (a person or a space ship, for instance) in any direction on the screen.

K (Kilobyte)

A unit of measurement equal to 1,024 bytes (from the Greek word "kilo," meaning thousand). A computer's memory capacity is usually stated in kilobytes, or more simply K. A 64K computer has enough memory to hold 65,536 characters at one time. This is equal to about 32 single-spaced typewritten pages. A kilobyte is 1,024 bytes (rather than 1,000) because computers store and calculate numbers in binary form: 1,024 is 10 2s multiplied together, or in binary form, 10000000000.

Language

A set of "words" or commands used in programming a computer. Each of the various computer languages has its own set of rules for how to combine these commands into instructions that the computer will understand. Some languages, such as BASIC, use English-like commands. Others, such as machine language, use combinations of numbers as commands.



"Camilla and I like to program our computer using Fowl Language. It's not much use for doing math or anything like that, but it's terrific for moving the cursor!"

Letter-Quality Printer

A device that prints one complete character at a time, producing text with the quality of a typewritten document.

Light Pen

A pen-shaped device with a light-sensitive tip, which enables it to detect the position at which it touches a display screen. Light pens can be used to create computer graphics or to point to choices on a screen.

Load

To "read" a program or data file from a floppy disk or cassette and place it into the computer's memory, making it available to the user.

Logo

A programming language designed to make it easy for children — and adults — to learn about computers and logic, with simple commands for drawing shapes and pictures. The Slowgo language presented in **Welcome Aboard** closely resembles parts of Logo.

Machine Language

Machine-language programs are written entirely in binary numbers, each number representing an individual command for the microprocessor. Virtually nobody writes programs directly in machine language — it is too tedious working with nothing but strings of 1s and 0s. Instead, programmers use assemblers, interpreters, and compilers which translate other computer languages into machine language.

Machine-language commands to add 2 and 2 and store the result look like this:

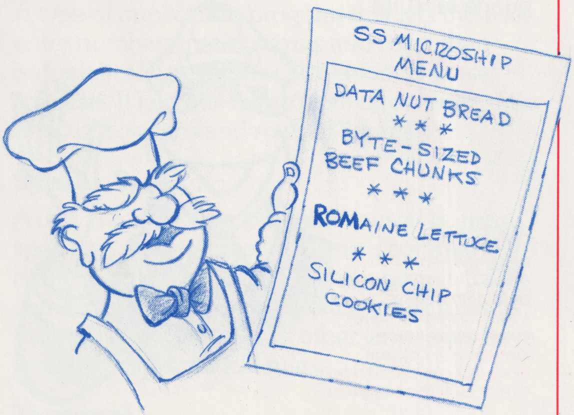
```
00011000
10101001
00000010
01101001
00000010
10000101
00001001
00000000
```

Mainframe

A large, powerful computer suitable for handling complex tasks. Mainframes are often used in large businesses, in science and research, and in communications.

Memory
The chips inside a computer that store information. There are two types of memory inside the computer—Random Access Memory (RAM) and Read Only Memory (ROM). The first is temporary; the second is permanently stored in the computer.

Menu
A display of options on the screen that allows the user to select the activity he or she wants the computer to perform next.



Microcomputer
A computer in which the CPU is contained in one chip. A microcomputer is usually small enough to fit on a desk.

Microprocessor
The chip containing the "brain" of the computer, also known as the central processing unit (CPU).

Modem
Short for MOdulator/DEModulator. A device that connects a computer to a telephone line so that it can exchange information with another computer. A modem translates binary computer information (a stream of 1s and 0s) into sound—modulates it—and translates incoming sound into binary computer information—demodulates it.

Monitor
A screen resembling a TV screen that is used to display computer output—to monitor what the computer is doing. Monitors are also called display screens.

Motherboard
The main circuit board in a computer, containing the central processing unit and the memory.

Mouse
A small pointing device that a computer user moves around on a desk or tabletop, causing a pointer to move around on the monitor. A button on the mouse is pushed to tell the computer to perform a task related to that particular point on the screen. A mouse is used instead of the keyboard in many applications on some new computer models.

*"Will you **please** come down from there, Fozzie. It's only a a computer mouse!"*

Output
Whatever a computer sends to a peripheral device such as the display screen, the printer, or the disk drive, or to another computer.

Peripheral
A device connected to a computer, rather than built into it. Peripherals include printers, disk drives, modems, and joysticks.

Pixel

Short for picture element. A pixel is an individual dot on a computer display. The image on the screen is made up of arrangements of pixels that are illuminated, and sometimes colored, to form the desired shape.

Port

A connector on a computer into which a peripheral device can be plugged.

Program

A list of instructions written in a particular computer language telling a computer to perform certain tasks.

Programming

The art and science of writing the hundreds or thousands of instructions that form a program. Often performed late at night, or for hours and days at a time. In **Welcome Aboard,** you can program the ship's course on the Bridge.

RAM

Stands for Random Access Memory. This is memory that can be changed by the computer user. Its contents are erased when the computer is turned off. (Compare with ROM.) This is the main memory used by a program and for holding data.

Read

The act of transferring data from a storage medium such as a floppy disk to the computer's memory. Reading leaves the original data unchanged, just as listening to a tape or watching a film leaves the tape or film unaltered.

Return Key

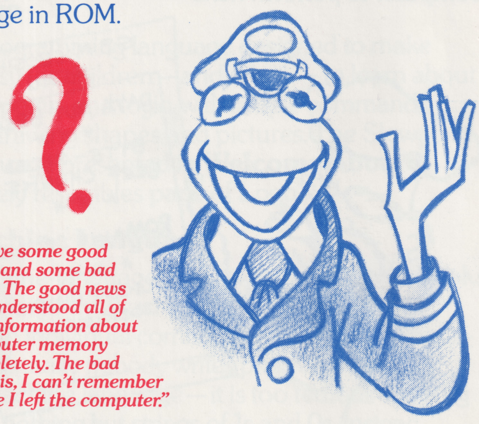
The key on the computer keyboard that is used to enter a command or to signal a program that you have finished typing something. It is sometimes called the ENTER key. Pressing RETURN tells the computer, "Now it's your turn."

RF Modulator

A device that allows the user to use a standard television set instead of a special computer monitor as a display screen. Some computers have an RF (radio-frequency) modulator built in; others require a separate unit.

ROM

Stands for Read Only Memory. ROM is the permanent part of a computer's memory. It cannot be changed, and is not erased when the computer is turned off. ROM is used to store essential programs—for example, many microcomputers have the BASIC programming language in ROM.



"I have some good news and some bad news. The good news is, I understand all of this information about computer memory completely. The bad news is, I can't remember where I left the computer."

Run

To cause a computer program to execute the commands or instructions of which it is composed.

Save

To preserve a program or data file by "writing" the information onto a floppy disk or cassette.

Scrolling

Moving the information on a computer display vertically or horizontally, allowing the user to view text or graphics that won't all fit on the screen at one time.

Silicon

The most abundant element on earth and the basic ingredient in sand. Because of its properties as an electrical semiconductor, silicon is the key to the manufacture of computer chips.

Slowgo

A Logo-like programming language designed specifically for **Welcome Aboard,** to help the user plot the course of the *SS Microship*.

Software

Computer programs and instructions used to control what a computer does, as compared to "hardware," which is the actual electronic machinery.

Spreadsheet Program

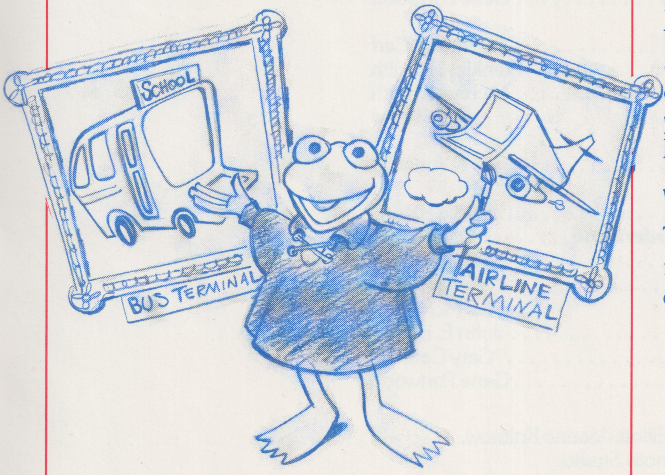
A type of application program that lets the user enter numbers into columns and rows, then automatically performs calculations the user requests. It takes its name from an accountant's array of columns and rows of figures.

Syntax Error

A bug in a computer program caused by misspelling a command or by using a command in a way that the language does not permit. Each computer language has its own syntax rules to follow, just as English and other languages have their own grammatical rules.

Terminal

A device that contains a keyboard and a display screen that can be used to communicate with a computer by typing instructions on the keyboard and seeing the results on the display. Some microcomputers group the computer, keyboard, and display into a stand-alone unit so that a separate terminal is not necessary. Your home computer can act as a terminal when you use it to communicate with another, usually larger computer over telephone lines.



User Group

Computer users who meet to discuss experiences, exchange information and offer mutual assistance.

Window

A box superimposed by a program over whatever else is on the display screen. Windows eliminate the need to erase the rest of the material on the screen. With several windows on the screen at once, the computer can carry on different tasks without the user losing sight of any of them.

Windows have become very popular in computer programs in the past few years. However, **Welcome Aboard** is the first program ever to employ the latest technological breakthrough —portholes!

Word Processing Program

An application program that allows the user to type text, see it displayed on the computer screen, and then quickly correct or rearrange the text before printing it. Word processing programs allow users to store documents on floppy disks or cassettes for later use. In **Welcome Aboard,** you can try your hand at word processing in the Message Center.

Write

The act of transferring data from the computer's memory to a storage medium such as a floppy disk or cassette.

Credits for Welcome Aboard

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Programmer	Gene Kusmiak
Graphics & Animation	Gene Portwood
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Producer	Franklin E. Smith
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Brøderbund™

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